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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,644	12/09/2004	Chikafumi Yokoyama	57964US004	3064

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EXAMINER	
LAMBELET, LAWRENCE EMILE	
ART UNIT	**PAPER NUMBER**
1732	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/517,644	YOKOYAMA ET AL.	
	Examiner	Art Unit	
	Lawrence Lambelet	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) *1-6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II, claims 7-10, in the reply filed on 9/6/2006, is acknowledged. The traversal is on the ground(s) that claim 1 is not obvious over or anticipated by Yokoyama et al (U.S. Patent Application Publication 2002/0007000). This is not found persuasive because the reference does read on the special technical feature, a flexible mold, in paragraph [0035]. Consequently, the special technical feature does not provide a contribution over the prior art and there is a lack of unity of invention *a posteriori*.

The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

Amendments to claims 1-10 and new claim 11, filed 9/6/2006, are hereby acknowledged and made of record.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forest (U.S. Patent 3,369,949), and further in view of Audsley (U.S. Patent 4,929,403).

Forest discloses a method of making a flexible mold, as recited by claim 11. Forest teaches applying a separator (second material, although not curable) to a fabric (effectively a mold) thereby filling recesses. See lines 30-45 in column 3. Forest further teaches applying (laminating) an elastomeric material (first curable material) between the separator coating and a backing (support film). See lines 42-53 in column 4 and lines 70-75 in column 5.

With regard to applying the elastomeric material first to the backing, selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Forest does not teach that the second material is a curable material. Forest further does not teach that the first material has a viscosity of 3,000-100,000 cps at 10-80° C, or that the second material has a viscosity of ≤ 200 cps at 10-80° C. Forest still further does not teach irradiating first and second materials.

Audsley teaches that the first coating (second curable material) to be applied to the model for the mold is a radiatively curable fluid molding composition. See lines 8-20 in column 3. Audsley further teaches that the mold is comprised of multiple layers, having a first thickness of about 1 mm and at least a second thickness of 2-3 mm, resulting in up a total of 3-4 mm of composition curable by radiation. See lines 21-25 in column 3. Audsley still further teaches that a curable composition has a viscosity of about 5,000-10,000 cps at 25° C. See lines 48-60 in column 5.

Audsley teaches that the curable composition is comprised of both a diluent and a thixotrope. See lines 39-44 in column 3. One of ordinary skill would have recognized that a proper manipulation of these thinning and thickening ingredients for the first coating layer (second curable material) would have resulted in a viscosity of design choice at a selected temperature.

Forest and Audsley are combinable because they are concerned with a similar technical field, namely, making flexible molds. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Forest the curable molding compositions of Audsley, and would have been motivated to do so because the molds can be made quickly. See lines 61-65 in column 2 of Audsley.

As presented in the previous Office Action, claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al (U.S. Patent Application Publication 2002/0007000) in view of Audsley.

Regarding claim 7, Yokoyama et al, hereafter "Yokoyama", teaches a method of manufacturing a microstructure having a projection pattern having a predetermined shape and a predetermined size on a surface of a substrate (fig 2d), comprising the steps of: preparing a flexible mold having a groove pattern having a shape and a size corresponding to those of said projection pattern on a surface (fig 2a & par 0035); arranging a curable molding material between said substrate and said coating layer of said mold and filling said molding material into said groove pattern of said mold (fig 2c); curing said molding material and forming a microstructure having said substrate and

said projection pattern integrally bonded to said substrate (fig 2c & 2d); and releasing said microstructure from said mold (fig 2e).

However, Yokoyama does not teach including a base layer made of a first curable material having a viscosity of 3,000 to 100,000 cps at 10 to 80°C and a coating layer made of a second curable material having a viscosity of not greater than 200 cps at 10 to 80°C, and coating a surface of said base layer. Nevertheless, Audsley does teach making a multilayered flexible mold (abstract) comprising a base/initial layer having a viscosity 5000-10000 cps at 25°C (col 5 lines 3-68), a coating layer that is provided on the surface of the base layer (col 9 lines 18-33). As to the viscosity of the coating layer, Audsley teaches that the viscosity of the coating material may be controlled by including thixotrope or filler; therefore, making it a easily controllable variable that could be adjusted to meet design requirements.

It would have been obvious to one having ordinary skill in the art at the time of invention to modify Yokoyama's method of manufacturing a microstructure having a projection pattern to include Audsley's multilayered flexible mold. One would be motivated to do so to enhance the strength and durability of the mold (col 11 lines 57-62).

Regarding claim 8, Yokoyama et al teach molding material is photo-curable material (fig 2c).

Regarding claim 9, Yokoyama et al teach microstructure is a back plate for a plasma display panel (par 0019).

Regarding claim 10, Yokoyama et al teach a step of independently arranging a set of address electrodes substantially in parallel with each other while keeping a predetermined gap between them (fig 1, 10 & par 0018).

Response to Arguments

Applicant's arguments filed 9/6/2006 have been fully considered but they are not persuasive. Regarding claims 7-10, applicant states that the Audsley reference does not teach a mold prepared from two molding compositions having different viscosities.

Examiner argues that Audsley does teach that the mold is comprised of at least two discrete layers, as shown at lines 21-25 in column 3. Audsley further teaches that the molding composition has the viscosity of about 5,000-10,000 cps at 25° C and that both diluent and thixotrope are included ingredients. See lines 48-60 in column 5 and lines 39-44 in column 3. It would have been obvious to one of ordinary skill to change the viscosity of one of the layers through manipulation of the ingredients and such a change would have resulted in two molding compositions.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Lambelet whose telephone number is 571-272-1713. The examiner can normally be reached on 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER
10/30/06

LEL
10/24/2006